

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method comprising:
 - performing a first encoding transformation on a set of data representing a video frame as frame-based data to generate an array of frame-based coefficient data including chrominance data and a first representation of luminance data;
 - performing a second encoding transformation on the set of data representing the video frame as field-based data to generate an array of field-based coefficient data including chrominance data and a second representation of the luminance data;
 - determining a number of non-zero coefficients within the array of the frame-based data;
 - determining a number of non-zero coefficients within the array for the field-based data;
 - selecting either the array of frame-based data or the array of field-based data based, at least in part, on the number of non-zero coefficients in the frame-based data and the field-based data; and
 - converting an ordering of the arrays of selected data.

2. (Previously presented) The method of claim 1 wherein the first encoding transformation and the second encoding transformation each comprise a discrete cosine transform (DCT) operation.

3. (Previously presented) The method of claim 2 wherein each encoding transformation further comprises quantization of results of the DCT operation.

4. (Original) The method of claim 1 wherein selecting either the arrays of frame-based data or field-based data based, at least in part, on the number of non-zero coefficients in the frame-based data and the field-based data comprises:

comparing a macroblock of frame-based data to a macroblock of field-based data;
and

selecting the macroblock of data having the fewer number of non-zero coefficients.

5. (Original) The method of claim 1 wherein converting an ordering of the arrays of frame-based data coefficients and of the arrays of field-based data coefficients comprises performing a zig-zag conversion wherein an 8x8 matrix having an original order of:

0	1	2	3	4	5	6	7
8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23
24	25	26	27	28	29	30	31
32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47
48	49	50	51	52	53	54	55
56	57	58	59	60	61	62	63

are converted to having a scanning order of:

0	1	5	6	14	15	27	28
2	4	7	13	16	26	29	42
3	8	12	17	25	30	41	43
9	11	18	24	31	40	44	53
10	19	23	32	39	45	52	54
20	22	33	38	46	51	55	60
21	34	37	47	50	56	59	61
35	36	48	49	57	58	62	63

6. (Currently Amended) An article of manufacture comprising electronically-accessible medium to provide instructions that, when executed, by one or more processors, cause one or more electronic systems to:

perform a first encoding transformation on a set of data representing a video frame as frame-based data to generate an array of frame-based coefficient data including chrominance data and a first representation of luminance data;

perform a second encoding transformation on the set of data representing the video frame as field-based data to generate an array of field-based coefficient data including chrominance data and a second representation of the luminance data;

determine a number of non-zero coefficients within the array of the frame-based data;

determine a number of non-zero coefficients within the array for the field-based data;

select either the array of frame-based data or the array of field-based data based, at least in part, on the number of non-zero coefficients in the frame-based data and the field-based data; and

convert an ordering of the arrays of selected data.

7. (Previously presented) The article of claim 6 wherein the instructions that cause the one or more electronic systems to perform encoding transformation comprise instructions that, when executed, cause the one or more electronic systems to perform a first discrete cosine transform (DCT) operation on the data representing the video frame to generate the frame-based data and a second DCT operation on the data representing the video frame to generate the field-based data.

8. (Previously Presented) The article of claim 7 wherein the instructions that cause the one or more electronic systems to perform encoding transformation further comprises instructions that, when executed, cause the one or more electronic systems to perform quantization of results of the DCT operations.

9. (Original) The article of claim 6 wherein the instructions that cause the one or more electronic systems to select either the arrays of frame-based data or field-

based data based, at least in part, on the number of non-zero coefficients in the frame-based data and the field-based data comprises instructions that, when executed, cause the one or more electronic systems to:

compare a macroblock of frame-based data to a macroblock of field-based data;
and

select the macroblock of data having the fewer number of non-zero coefficients.

10. (Original) The article of claim 6 wherein the instructions that cause the one or more electronic systems to convert an ordering of the arrays of frame-based data coefficients and of the arrays of field-based data coefficients comprises instructions that, when executed, cause the one or more electronic systems to perform a zig-zag conversion wherein an 8x8 matrix having an original order of:

0	1	2	3	4	5	6	7
8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23
24	25	26	27	28	29	30	31
32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47
48	49	50	51	52	53	54	55
56	57	58	59	60	61	62	63

are converted to having a scanning order of:

0	1	5	6	14	15	27	28
2	4	7	13	16	26	29	42
3	8	12	17	25	30	41	43
9	11	18	24	31	40	44	53
10	19	23	32	39	45	52	54
20	22	33	38	46	51	55	60
21	34	37	47	50	56	59	61
35	36	48	49	57	58	62	63

11. (Currently Amended) An apparatus comprising:

means for performing a first encoding transformation on a set of data representing a video frame as frame-based data to generate an array of frame-based coefficient data including chrominance data and a first representation of luminance data;

means for performing a second encoding transformation on the set of data representing the video frame as field-based data to generate an array of field-based coefficient data including chrominance data and a second representation of the luminance data;

means for determining a number of non-zero coefficients within the array of the frame-based data;

means for determining a number of non-zero coefficients within the array for the field-based data;

means for selecting either the array of frame-based data or the array of field-based data based, at least in part, on the number of non-zero coefficients in the frame-based data and the field-based data; and

means for converting an ordering of the arrays of selected data.

12. (Previously presented) The apparatus of claim 11 wherein the means for encoding transformation performs a first discrete cosine transform (DCT) operation on the data representing the video frame to generate the frame-based data and a second DCT operation on the data representing the video frame to generate the field-based data.

13. (Previously presented) The apparatus of claim 12 wherein the means for encoding transformation further comprises means for quantization of results of the DCT operations.

14. (Original) The apparatus of claim 11 wherein the means for selecting either the arrays of frame-based data or field-based data based, at least in part, on the number of non-zero coefficients in the frame-based data and the field-based data comprises:

means for comparing a macroblock of frame-based data to a macroblock of field-based data; and

means for selecting the macroblock of data having the fewer number of non-zero coefficients.

15. (Original) The apparatus of claim 11 wherein the means for converting an ordering of the arrays of frame-based data coefficients and of the arrays of field-based data coefficients comprises means for performing a zig-zag conversion wherein an 8x8 matrix having an original order of:

0	1	2	3	4	5	6	7
8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23
24	25	26	27	28	29	30	31
32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47
48	49	50	51	52	53	54	55
56	57	58	59	60	61	62	63

are converted to having a scanning order of:

0	1	5	6	14	15	27	28
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9	11	18	24	31	40	44	53
10	19	23	32	39	45	52	54
20	22	33	38	46	51	55	60
21	34	37	47	50	56	59	61
35	36	48	49	57	58	62	63